

WHAT IS CLAIMED IS:

- 1           1.       An article of manufacture for managing devices, wherein the article of  
2 manufacture causes operations to be performed, the operations comprising:  
3           receiving a request implemented via at least one device independent class;  
4           traversing a class hierarchy database to determine at least one device specific  
5 class that corresponds to the at least one device independent class, wherein the class  
6 hierarchy database stores a class hierarchy and associations between classes; and  
7           modifying the received request, wherein in the modified request the least one  
8 device independent class has been translated to the at least one device specific class.
  
- 1           2.       The article of manufacture of claim 1, the operations further comprising:  
2           mapping at least one device independent class attribute to at least one device  
3 specific class attribute in the modified request;  
4           mapping at least one device independent property to at least one device specific  
5 property in the modified request;  
6           generating a device specific request from the modified request, in response to  
7 mapping the at least one device independent class attribute and the at least one device  
8 independent property; and  
9           sending the device specific request to a managed device.
  
- 1           3.       The article of manufacture of claim 1, the operations further comprising:  
2           further modifying the received request to include at least one association between  
3 device specific classes in the class hierarchy.
  
- 1           4.       The article of manufacture of claim 1, wherein the received request  
2 indicates a source class and a requested class, the operations further comprising:  
3           determining a specific association between a first device specific class that  
4 corresponds to the source class and a second device specific class that corresponds to the  
5 specific class, wherein the specific association corresponds to a managed device.

1           5.       The article of manufacture of claim 4, wherein the source class represents  
2 storage pools and the requested class represents storage volumes corresponding to a  
3 storage pool.

1           6.       The article of manufacture of claim 1, wherein the received request  
2 indicates a source class and a base association, the operations further comprising:  
3           determining a first device specific class from the class hierarchy database,  
4 wherein the first device specific class has a specific association with a second device  
5 specific class that corresponds to the indicated source class, and wherein the specific  
6 association corresponds to the base association.

1           7.       The article of manufacture of claim 1, wherein the receiving, traversing,  
2 and modifying are performed by a proxy, the operations further comprising:  
3           generating a device specific request in a device specific language; and  
4           sending the device specific request in the device specific language to a managed  
5 device coupled to the proxy.

1           8.       The article of manufacture of claim 1, wherein the request is received  
2 from a Common Information Model application, and wherein the at least one device  
3 independent class is specified by a Common Information Model schema.

1           9.       The article of manufacture of claim 1, wherein the request comprises a  
2 command that is part of an object oriented management schema for managing non-  
3 homogeneous devices in a network environment.

1           10.      The article of manufacture of claim 9, wherein the management schema  
2 comprises the Common Information Model.

1           11.      A method for managing devices, the method comprising:

2 receiving a request implemented via at least one device independent class;  
3 traversing a class hierarchy database to determine at least one device specific  
4 class that corresponds to the at least one device independent class, wherein the class  
5 hierarchy database stores a class hierarchy and associations between classes; and  
6 modifying the received request, wherein in the modified request the least one  
7 device independent class has been translated to the at least one device specific class.

1 12. The method of claim 11, further comprising:  
2 mapping at least one device independent class attribute to at least one device  
3 specific class attribute in the modified request;  
4 mapping at least one device independent property to at least one device specific  
5 property in the modified request;  
6 generating a device specific request from the modified request, in response to  
7 mapping the at least one device independent class attribute and the at least one device  
8 independent property; and  
9 sending the device specific request to a managed device.

1 13. The method of claim 11, further comprising:  
2 further modifying the received request to include at least one association between  
3 device specific classes in the class hierarchy.

1 14. The method of claim 11, wherein the received request indicates a source  
2 class and a requested class, the method further comprising:  
3 determining a specific association between a first device specific class that  
4 corresponds to the source class and a second device specific class that corresponds to the  
5 specific class, wherein the specific association corresponds to a managed device.

1 15. The method of claim 14, wherein the source class represents storage pools  
2 and the requested class represents storage volumes corresponding to a storage pool.

1           16.     The method of claim 11, wherein the received request indicates a source  
2     class and a base association, the method further comprising:  
3           determining a first device specific class from the class hierarchy database,  
4     wherein the first device specific class has a specific association with a second device  
5     specific class that corresponds to the indicated source class, and wherein the specific  
6     association corresponds to the base association.

1           17.     The method of claim 11, wherein the receiving, traversing, and modifying  
2     are performed by a proxy, the method further comprising:  
3           generating a device specific request in a device specific language; and  
4           sending the device specific request in the device specific language to a managed  
5     device coupled to the proxy.

1           18.     The method of claim 11, wherein the request is received from a Common  
2     Information Model application, and wherein the at least one device independent class is  
3     specified by a Common Information Model schema.

1           19.     The method of claim 11, wherein the request comprises a command that is  
2     part of an object oriented management schema for managing non-homogeneous devices  
3     in a network environment.

1           20.     The method of claim 19, wherein the management schema comprises the  
2     Common Information Model.

1           21.     An system for managing devices, comprising:  
2     a processor; and  
3     program logic including code capable of causing the processor to perform:  
4           receiving a request implemented via at least one device independent class;

5                   traversing a class hierarchy database to determine at least one device  
6   specific class that corresponds to the at least one device independent class, wherein the  
7   class hierarchy database stores a class hierarchy and associations between classes; and  
8                   modifying the received request, wherein in the modified request the least  
9   one device independent class has been translated to the at least one device specific class.

1           22.    The system of claim 21, further comprising:  
2           a managed device, wherein program logic is further capable of causing the  
3   processor to perform:  
4           mapping at least one device independent class attribute to at least one  
5   device specific class attribute in the modified request;  
6           mapping at least one device independent property to at least one device  
7   specific property in the modified request;  
8           generating a device specific request from the modified request, in response  
9   to mapping the at least one device independent class attribute and the at least one device  
10   independent property; and  
11           sending the device specific request to the managed device.

1           23.    The system of claim 21, wherein the program logic is further capable of  
2   causing the processor to perform:  
3           further modifying the received request to include at least one association between  
4   device specific classes in the class hierarchy.

1           24.    The system of claim 21, further comprising:  
2           a managed device, wherein the received request indicates a source class and a  
3   requested class, and wherein the program logic is further capable of causing the processor  
4   to perform:

5                   determining a specific association between a first device specific class that  
6 corresponds to the source class and a second device specific class that corresponds to the  
7 specific class, wherein the specific association corresponds to the managed device.

1           25.     The system of claim 24, wherein the source class represents storage pools  
2 and the requested class represents storage volumes corresponding to a storage pool.

1           26.     The system of claim 21, wherein the received request indicates a source  
2 class and a base association, and wherein the program logic is further capable of causing  
3 the processor to perform:

4                   determining a first device specific class from the class hierarchy database,  
5 wherein the first device specific class has a specific association with a second device  
6 specific class that corresponds to the indicated source class, and wherein the specific  
7 association corresponds to the base association.

1           27.     The system of claim 21, further comprising:  
2                   a proxy, wherein the processor is included in the proxy; and  
3                   a managed device coupled to the proxy, wherein the receiving, traversing, and  
4 modifying are performed by the proxy, and wherein the program logic is further capable  
5 of causing the processor to perform:

6                             generating a device specific request in a device specific language; and  
7                             sending the device specific request in the device specific language to the  
8 managed device.

1           28.     The system of claim 21, wherein the request is received from a Common  
2 Information Model application, and wherein the at least one device independent class is  
3 specified by a Common Information Model schema.

1           29.     The system of claim 21, wherein the request comprises a command that is  
2     part of an object oriented management schema for managing non-homogeneous devices  
3     in a network environment.

1           30.     The system of claim 29, wherein the management schema comprises the  
2     Common Information Model.

1           31.     An system for managing devices, comprising:  
2             means for receiving a request implemented via at least one device independent  
3     class;  
4             means for traversing a class hierarchy database to determine at least one device  
5     specific class that corresponds to the at least one device independent class, wherein the  
6     class hierarchy database stores a class hierarchy and associations between classes; and  
7             means for modifying the received request, wherein in the modified request the  
8     least one device independent class has been translated to the at least one device specific  
9     class.

1           32.     The system of claim 31, further comprising:  
2             means for mapping at least one device independent class attribute to at least one  
3     device specific class attribute in the modified request;  
4             means for mapping at least one device independent property to at least one device  
5     specific property in the modified request;  
6             means for generating a device specific request from the modified request, in  
7     response to mapping the at least one device independent class attribute and the at least  
8     one device independent property; and  
9             means for sending the device specific request to a managed device.

1           33.     The system of claim 31, wherein the received request indicates a source  
2     class and a base association, the system further comprising:

3           means for determining a first device specific class from the class hierarchy  
4 database, wherein the first device specific class has a specific association with a second  
5 device specific class that corresponds to the indicated source class, and wherein the  
6 specific association corresponds to the base association.